

Lenovo Scalable Solution for SAP HANA®

Software Defined: Simple, Seamless and Scalable

Supports SAP S/4HANA® databases up to 36 TB

Enabling SAP S/4HANA and the Digital Enterprise

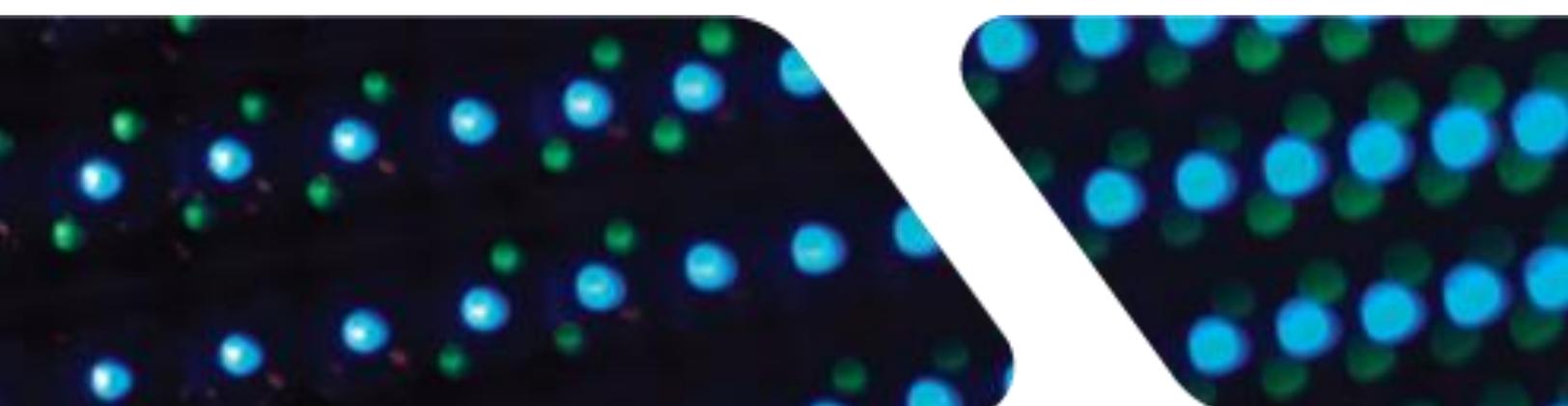
Enabling the digital enterprise and developing business analytic solutions are the keys to understanding challenges and responding to them proactively. To develop successful strategies in today's challenging environment, you need more access to critical enterprise insights than ever before. That fact is validated by a 2017 Gartner CIO Agenda survey, which revealed that analytics and enterprise resource planning (ERP) are top CIO priorities.¹ In addition, Forrester estimates that 70% of data in the enterprise goes unused.² Scalability of the solution is also a key factor for very large ERP systems.

SAP S/4HANA is a new generation of SAP Business Suite that includes simplifications, increased efficiency, and new features such as planning and simulation options in many conventional transactions. SAP S/4HANA signals a move away from the transactional system that records data toward giving end-users active decision support in real-time that is based on data from both internal and external sources. Big data is more than a challenge. It is an opportunity to find new insights in data to make your business more effective. And because data volumes are growing exponentially, your technology solutions must easily scale performance, manage huge volumes efficiently and operate reliably. At the same time, your technology solutions must enable greater application performance. These are complex demands. But breakthrough technologies can help you meet all these difficult demands now, while still accommodating for future growth.

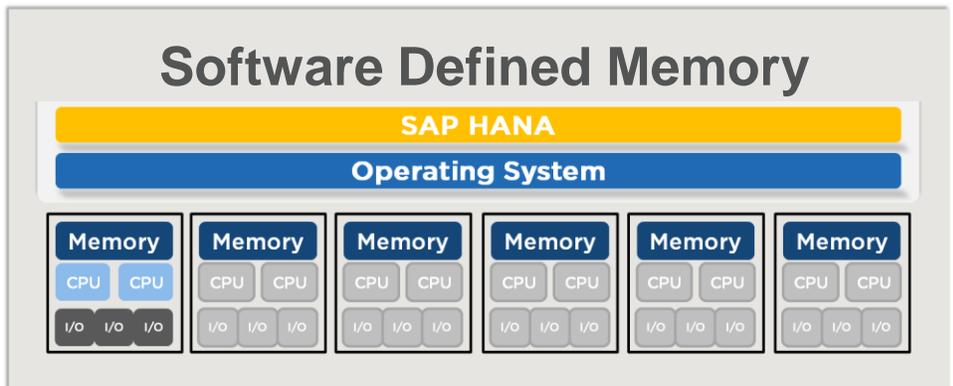
Built on Lenovo offerings that rank #1 in customer reliability and satisfaction³, and developed in close collaboration with SAP, the Lenovo Scalable Solution for SAP HANA provides unique capability for SAP S/4HANA applications to drive enterprise-critical insights in real time. Integrating hardware, software and memory advancements, the Lenovo Scalable Solution for SAP HANA is a software-defined solution. It is designed to be agile, scalable, and more resilient, helping your SAP S/4HANA applications operate more efficiently to improve your business processing and data foundation as well as help lower total cost of ownership.

Highlights

- Scale memory as your data grows
- Common platform for all SAP HANA landscapes
- Enterprise-class reliability, availability and support
- 24 x 7 mission critical services to install, maintain and manage production systems



Software Defined Memory – A New Approach. The Lenovo Scalable Solution for SAP HANA uses a software-defined approach to scale memory for large SAP S/4HANA workloads by aggregating resources from multiple systems to provide one large contiguous memory space.



MEMORY SCALING FOR LARGE SAP HANA DATABASES

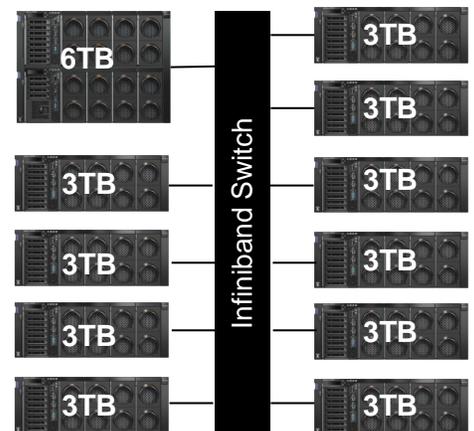
A new economic model is enabled that helps lower total cost of ownership (TCO). It offers the flexibility to start with a single system and overcoming system memory boundaries to seamlessly scale infrastructure as data grows. In addition, no storage area network (SAN) is required since persistent data is contained within the aggregate system.

The software-defined approach enables the use of common server building blocks for the entire SAP application landscape and eliminates the need to invest in large 16-socket or larger Symmetric Multi-Processor (SMP) systems. It also enables investment protection and a pay-as-you-grow approach, which allows you manage your data growth risk. Start with a standard 8-socket server platform and scale as your data grows.

The Scalable Solution for SAP HANA is engineered to scale to support the largest SAP S/4HANA workloads.

Scale SAP S/4HANA databases up to 36TB using a software-defined approach, that seamlessly scales to meet growing data needs. The solution starts with one 8-socket System x3950 X6, 6 TB compute node connected in an InfiniBand fabric with up to 10 4-socket System x3850 X6, 3 TB memory donor nodes. The systems are aggregated to provide a single system image with one operating system spanning all of the systems. The result is single scale-up system with up to 36 TB of system memory.

High availability (HA), disaster recovery (DR), and backup are key considerations in any SAP HANA implementation. The Lenovo Scalable Solution for SAP HANA is enabled to support standard HA, DR and backup practices, including support for SAP HANA system replication. A management server is recommended for software license and remote server management.



Scale up to 36 TB

The Lenovo x3850 X6 server is a 4-socket 4U rack-mounted server that represents the sixth generation of Lenovo Enterprise X-Architecture. Using Intel® Xeon® E7 v4 processors, the x3850 X6 delivers world-record SAP application performance⁴, is based on an agile system design, and is a resilient platform that is needed for mission-critical databases, enterprise applications, and virtualized environments. The x3850 X6 packs numerous fault-tolerant and high-availability features into a high-density, 4U rack-optimized lid-less package that helps reduce the space that is needed to support massive network computing operations and simplify servicing. The x3850 X6 supports up to four Intel Xeon E7 high-performance processors and up to 6 TB of memory.

The Lenovo System x3950 X6 server Similar to the x3850 X6, the 8U x3950 X6 6th-generation Enterprise X-Architecture server provides world-record 8-processor SAP application performance⁵ using up to eight Intel Xeon E7 v4 processors and 12 TB of memory.

Services for SAP HANA include offerings that span the lifecycle of your implementation. They are performed by experienced consultants using proven methods and best practices for solution hardware, software and firmware.

- **Deployment Services** help accelerate time to production and reduce risk with fast, efficient implementation following structured processes built up over many years. In addition, they can minimize disruptions through proper planning and data center preparation.
- **Health Check Services** helps keep systems operating optimally and provides a comprehensive evaluation of your SAP HANA systems by checking firmware, device drivers, operating system and SAP HANA levels and performing necessary system updates.
- **Managed Services** can bolster workforce productivity, drive innovation, and enhance business results. Lenovo service professionals remotely monitor and manage your data center to enhance security and reliability and help ensure maximum performance and availability of your SAP HANA systems. These services include 24x7 monitoring and management of your SAP HANA systems.

“We anticipate that SAP S/4HANA customers, whether they are using on-premise or SAP hosted cloud solutions, will see improved simplicity, scalability and TCO required for larger workloads,” said Dr. Wieland Schreiner, executive VP SAP S/4HANA, SAP SE. “Leveraging testing done in SAP’s own enterprise cloud and collaboration with Lenovo, this new solution will help customers enhance the return of their investment in SAP S/4HANA and realize new business value.”



**Lenovo System x3950 X6
Mission Critical Server**



**Lenovo System x3850 X6
Mission Critical Server**

Lenovo Scalable Solution for SAP HANA



Why Lenovo

Lenovo is a leading provider of x86 servers for the data center with over 8000 SAP HANA systems deployed. Featuring rack, tower, blade, dense and converged systems, the Lenovo server portfolio provides excellent performance, reliability and security. Lenovo also offers a full range of networking, storage, software, solutions, and comprehensive services supporting business needs throughout the IT lifecycle. With options for planning, deployment, and support, Lenovo offers expertise and services needed to deliver better service-level agreements and generate greater end-user satisfaction.

For More Information

To learn more about the Lenovo Scalable Solution for SAP HANA, contact your Lenovo sales representative or Business Partner and visit: www.lenovo.com/sap/hana

1 Gartner. Gartner Survey of More Than 2,500 CIOs Charts the Rise of the Digital Ecosystem. October 17, 2016

<http://www.gartner.com/newsroom/id/3481117>

2 Forrester Consulting, Ultra-Fast Data Access Is The Key To Unleashing Full Big Data Potential, January 2016

<http://a248.g.akamai.net/n/248/420835/2bbc8f05759a4596bfa5e05402901629c5ee0569e34c6715058800decbe84d61/sapasset.download.akamai.com/420835/sapcom/docs/2016/03/9ea84ab0-647c-0010-82c7-eda71af511fa.pdf>

3 ITIC, ITIC 2016 - 2017 Global Server Hardware, Server OS Reliability Report

http://www.lenovo.com/images/products/system-x/pdfs/white-papers/itic_reliability_2H_2016_wp.pdf

4 World Record SAP BW Edition for SAP HANA Benchmark Result for Lenovo x3850 X6

<https://lenovopress.com/lp0616-x3850-x6-sapbw4hana-benchmark-result-2017-02-07>

5 World Record SAP SD Benchmark Result for Lenovo x3950 X6

<https://lenovopress.com/lp0615-x3950-x6-sapsd-benchmark-result-2017-02-07>

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